REMARKS

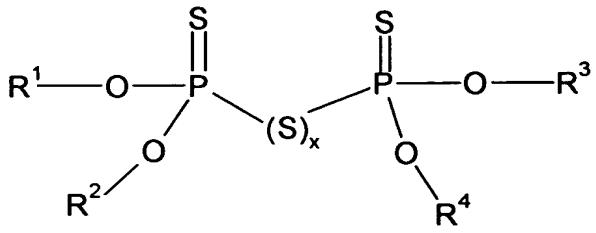
Applicants have amended Claims 1, 3, 4 and 6. Applicants submit that no new matter has been added by the present amendment, support for the amendment can be found generally throughout the text, specifically at page 5, line 16 - page 6, line 10.

I. Rejection under 35 U.S.C. §102 (b) or (e) and/or § 103(a)

Claims 1-7 were rejected under 35 U.S.C. § 102(b) and (e) as anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over Obrecht, et al. (U.S. Patent No. 6,184,296). Applicants respectfully traverse this ground of rejection

In order to anticipate an invention, the cited art must teach each and every element of the claimed invention, either expressly or inherently. Similarly, "[t]o establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. In re Royka, 490 F.2d 981, 180 USPQ 580 (Fed. Cir. 1974)". Applicants also respectfully submit that "in order to establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference. Second, there must be a reasonable expectation of success. Finally, the prior art references must teach or suggest all the claims limitations. The teachings or suggestions to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicants' disclosure." See MPEP § 2142, citing In re Vaeck, 947 F.2d 488, 20 USPQ 2d. 1438 (Fed. Cir. 1991).

The present invention is directed to rubber compounds comprising at least one rubber that contains double bonds (A), at least one rubber gel (B) and at least one phosphoryl polysulfide (C) which is selected from phosphoryl polysulfides of the formula (I)



(I)

in which R^1, R^2, R^3, and R^4 are identical or different and stand for aliphatic, heteroaliphatic, aromatic and heteroaromatic substituents with from 1 to 24 C atoms, and from 1 to 4 heteroatoms, and x stands for integers of 1 to 8, and wherein the proportion of rubber that contains double bonds (A) is 100 parts by weight, the proportion of rubber gel (B) is from 5 to 150 parts by weight and the proportion of phosphoryl polysulfide (C) is from 0.1 to 10 parts by weight, and optionally other fillers and rubber auxiliary substances.

Obrecht, et al. discloses rubber mixtures comprising a reaction product of at least one surface modified rubber gel which has been surface modified after having been crosslinked with at least one sulfur containing compound which is reactive towards C=C double bonds, with, at least one rubber compound containing double bonds. According to the disclosure of Obrecht, et al. the sulfur containing compound is either elemental sulfur, hydrogen sulfide, a mercapto compound, a dithiocarbamate, a polysulfide, a xanthogenate, a thiobenzothiazole, a dithiophosphoric acid, a salt thereof, or a mixture thereof. See Claims 1, 8 and 9. Further, as disclosed at column 3, lines 45-48, the modification of the rubber gel is preferably carried out in the presence of sulfur, wherein the sulfur is also incorporated by the formation of polysulfide bonds. The Examples of Obrecht, et al. disclose modification with either sulfur and sodium isopropyl xanthogenate, sulfur and sodium dibenzyldithiocarbamate or 1,6-hexanedithiol. See Examples 1(b), 2(b), 3(b) and 5(b).

Obrecht, et al. does not disclose, by example or text, modification with phosphoryl polysulfides of the formula (I). Further, Obrecht, et al. does not even suggest to one skilled in the art a rubber compound comprising phosphoryl polysulfides of the formula (I). Applicants respectfully remind the Examiner that even though the cited art could be modified, the art must still have suggested the

modification. See In re Gordon, 733 F.2d 900, 902, 221 U.S.P.Q. 1125, 1127 (Fed. Cir. 1984) ("The mere fact that the prior art could be so modified would not have made the modification obvious unless the prior art suggested the desirability of the modification.")

Based at least on the above, Applicants respectfully submit that Obrecht, et al. does not anticipate or render the present invention obvious and therefore, Applicants request withdrawal of this ground of rejection.

II. Rejection under 35 U.S.C. §103(a)

Claims 1-7 were rejected under 35 U.S.C. § 103(a) as obvious over Obrecht, et al. (U.S. Patent No. 6,127,488) alone or in view of Ludger, et al. (CA 2,298,498). Applicants respectfully traverse this ground of rejection.

Applicants' comments above are herein incorporated. As stated in the Office Action, at page 2- page 3, Obrecht, et al. teaches rubber vulcanizates comprising rubber containing double bonds, rubber gel, and a conventional sulfur donor. Again, as stated in the Office Action, Obrecht, et al. does not disclose phosphoryl polysulfides as a sulfur donor. Accordingly, Applicants submit, as discussed above, Obrecht, et al. alone, fails to render the present invention obvious, because it does not teach or suggest all the claims limitations, namely a rubber compound comprising a phosphoryl polysulfides of the formula (I).

CA '498 discloses a process for the production of compounds of formula (I). The compounds of formula (I) are disclosed as sulfur donors for the vulcanization of natural and synthetic rubbers. They are, however, not taught or suggested to be useable in compositions comprising a rubber and a rubber gel. See page 4, lines 17-22 which only discloses and or suggests that dithiophosphoric acid polysulfides produced according to Ludger, et al. are particularly suitable for use as sulfur donors for the vulcanization of natural and synthetic rubbers and for latex vulcanization of natural or synthetic rubber latex.

Accordingly, Applicants submit there was no motivation for one skilled in the art to combine Obrecht, et al. with Ludger, et al. In particular 'Obrecht, et al. merely

discloses "conventional" cross-linking agents, not any specific type. Further, there is no motivation to use the compounds produced according to Ludger, et al. in mixtures comprising rubber gels.

Applicants respectfully remind the Examiner that "[c]are must be taken to avoid hindsight reconstruction by using the patent in suit as a guide through the maze of prior art references, combining the right references in the right way so as to achieve the result of the claims in suit.'" Grain Processing Corp. v. American Maize-Prods. Co., 840 F.2d 902, 907, 5 U.S.P.Q.2d 1788, 1792 (Fed. Cir. 1988).

Furthermore, Compound 3 of the Examples of the present invention, compared to Compound 1, which corresponds to Obrecht, et al. (no phosphoryl polysulfide – only sulfur), has a much higher S300 x D at higher resilience and higher modulus at 300 % elongation (See Table 4). Thus, Applicants submit that it was totally surprising that the use of the phosphoryl polysulfides provides such an improvement in the microgel/rubber compositions.

For at least these reasons, Applicants request withdrawal of this ground of rejection.

Respectfully submitted,

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